



# UNITED STATES DEPARTMENT OF COMMERCE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/066,839	12/28/94	ALGY TAMOSHUNAS	100-33-946

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26M2/0130

EXAMINER
RADJA

ART UNIT	PAPER NUMBER
2615	13

DATE MAILED:

01/30/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

08/366,339

Applicant(s)

Keesman

Examiner

A. Rao

Group Art Unit

2615



☒ Responsive to communication(s) filed on Jan 8, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-9 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-9 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

**Part III     DETAILED ACTION**

*Response to Amendment After Final*

1.     Applicant's arguments with respect to claims 1-9 as filed in Paper 12 on 1/8/97 have been considered but are deemed to be moot in view of the new grounds of rejection.

*Claim Rejections - 35 USC § 102*

2.     The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3.     Claims 1-2 and 5 rejected under 35 U.S.C. § 102(e) as being anticipated by Balakrishnan.

Balakrishnan discloses a method of compression for transmission of an encoded digital video signal bit stream (Balakrishnan: column 4, lines 52-64), comprising the steps of: detecting a first bit rate of the encoded digital video signal bit stream (Balakrishnan: column 8, line 52-62); sequentially writing the encoded digital video signal bit stream into a buffer at said first bit rate (Balakrishnan: column 5, lines 43-53); deriving a second bit rate as a percentage of the first bit rate, changes in which percentage are inversely related to changes in

the first bit rate (Balakrishnan: column 9, lines 38-68; column 10, lines 1-12 & 64-68; column 11, lines 1-15); and reading out the encoded digital video signal bit stream from the buffer at the second bit rate (Balakrishnan: column 10, lines 29-55), wherein both the first and second bit rates are variable (Balakrishnan: column 8, lines 50-55) in claim 1.

Regarding claim 2, Balakrishnan discloses that the second bit rate can equal the first bit rate for a specified range of first bit rate values (Balakrishnan: column 11, lines 9-23) as in the claim.

Regarding claim 5, Balakrishnan discloses a video signal apparatus operable to encode a digital video signal for transmission, the apparatus comprising: an encoder stage (Balakrishnan: column 11, lines 59-68; column 12, lines 1-2) for encoding a received video signal according to a predetermined coding scheme (Balakrishnan: column 5, lines 18-53) and outputting the signal as a variable bit-rate data stream; a buffer coupled to receive said variable bit-rate data stream from the encoder and arranged to output a data signal for transmission (Balakrishnan: figure 3, element 20); characterized by means operable to detect the bit rate of the variable bit-rate data stream (Balakrishnan: column 12, lines 7-19), to derive a second bit-rate as a percentage of the encoder stage output bit-rate, which percentage changes in inverse relation to the changes of the encoder stage output rate (Balakrishnan: column 9, lines 38-

68; column 10, lines 1-12 & 64-68; column 11, lines 1-15), and to control the buffer output data signal bit rate at said second bit-rate (Balakrishnan: column 9, lines 40-45), wherein said first and second bit-rates are variable (Balakrishnan: column 8, lines 50-55), as in claim 5.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

5. Claims 3-4, and 6-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Balakrishnan in view of Reininger et al.

Balakrishnan has a majority of the features of claims as discussed above, and further discloses the use of a VBR encoder (Balakrishnan: column 8, lines 55-61) in a MPEG environment (Balakrishnan: column 11, lines 60-68), as in claims 1 and 5. However Balakrishnan fails to disclose using a detected first

bit-rate based on successive groupings of frames of input video signals the derivation of the second bit-rate as claimed. Reininger discloses such a teaching for buffer control in a conventional MPEG predictive encoder (Reininger: column 6, lines 15-57) wherein which a first bit-rate is computed according to successive groupings of frames (Reininger: column 5, lines 1-50) for compression according to MPEG (Reininger: column 4, lines 27-50). It would have been obvious to one of ordinary skill in art to incorporate the Reininger teaching of using a detected first bit-rate based on successive groupings of frames of input video signals into the Balakrishnan encoding apparatus in order to execute video compression according to the MPEG standard (Reininger: column 2, lines 28-47). The incorporation of the Reininger encoder with the Balakrishnan apparatus would utilize a first bit-rate particular to each frame type of a group of pictures (Reininger: column 3, lines 5-55), as in place of the  $R_{old}$  input into the Balakrishnan regulation circuitry for computing the second bit-rate  $R_{new}$  (Balakrishnan: column 12, lines 3-54), for outputting the variable rate coded data from the buffer (Balakrishnan: column 11, lines 1-55). The Balakrishnan apparatus, now incorporating the Reininger teaching of using a detected first bit-rate based on successive groupings of frames of input video signals as explained above, has all of the features of invention as in claims 3, 7, and 9.

Regarding claims 4 and 6, the Balakrishnan apparatus, Balakrishnan apparatus, now incorporating the Reiningger teaching of using a detected first bit-rate based on successive groupings of frames of input video signals as explained above, has signals encoded according to the MPEG standard (Balakrishnan: column 5, lines 18-68; column 6, lines 1-20) as in the claims.

Regarding claim 8, the Balakrishnan apparatus, now Balakrishnan apparatus, now incorporating the Reiningger teaching of using a detected first bit-rate based on successive groupings of frames of input video signals as explained above, is characterized in that the instantaneous bit rate of the signal is inversely related to the bit density of an image frame N frame periods later where N is determined by said bit density (Balakrishnan: column 8, lines 50-64) as in the claim.

#### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


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Chujoh discloses a variable-rate video coding apparatus for maintaining a desired average bit-rate. Eyuboglu discloses a device and system for variable bit-rate communications. Lakshman discloses an apparatus and method for smoothing delay sensitive traffic of ATM networks.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Rao whose telephone number is (703) 305-4813.

  
AMELIA AD  
PATENT EXAMINER  
GROUP 2600

  
asr  
January 23, 1997